

# Cystocele Repair Utilizing Anterior Wall Mesh Graft Placed Via Double Trans-Obturator Approach (Perigee™ System)

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## Introduction

Anterior vaginal wall prolapse (cystocele) repair is one of the most common prolapse procedures completed in pelvic surgery. Repair by traditional approaches has historically been associated with failure rates as high as 40-60%<sup>1</sup>. It has been demonstrated that anterior wall grafts (both biologic and synthetic mesh) placed vaginally are safe, anatomic and result in higher cure rates<sup>2</sup>. Many different techniques have been described; however the attachment of the apical portion of the graft can be technically challenging and very difficult to get a safe, adequate attachment. The Perigee system was developed to be able to place an anterior wall graft, both safely and minimally invasively with needles passed through the transobturator space. The procedure comprehensively addresses anterior vaginal wall defects with a minimally invasive, time-efficient procedure that achieves strong attachments of the graft to the white line at the level of the bladder neck and near the ischial spine. Rane initially demonstrated the safety and efficacy of the procedure in an 11 patient pilot study<sup>3</sup>.

## Methods

The current study is a descriptive case series of the first 37 patients in our center that underwent the Perigee procedure for symptomatic grade 2-4 anterior vaginal wall prolapse with the Perigee System (American Medical Systems, Minnetonka, MN) from June 2004 through August 2005. This technique provides a comprehensive repair of cystocele caused by midline or paravaginal defects using a soft polypropylene mesh graft attached to the pelvic sidewalls (arcus) at the level of the bladder neck and 1-2cm distal to

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the ischial spine via two needles passed through the obturator space bilaterally. Two incisions are made in the groin on each side. There is minimal vaginal dissection required. Additional reconstructive and anti-incontinence procedures were performed as indicated. All underwent pre-operative urogynecologic evaluation including prolapse staging by Baden-Walker (BW) and POP-Q (PQ) systems. Outcome measures included prolapse degree at last follow-up visit, intra-operative complications, healing abnormalities, and other complications.

## Description of Procedure

A vertical incision is made on anterior vaginal wall starting at the bladder neck and directing toward the apex. The dissection is then carried out in a similar manner as a traditional anterior repair. The dissection is taken out laterally to the sidewall up to the ischial spine and the bladder also dissected superiorly off the cuff of vagina. Hysterectomy is not required, but may be completed concomitantly. If completed, the cuff should be closed and the anterior wall dissection done as stated above. The dissection is simple and the retropubic space does not need to be entered, nor does the sacrospinous ligament need to be dissected out either. The cystocele

may be reduced prior to needle passage if desired.

Superior (distal) needles are passed first with direct finger guidance. The incisions are made in gentifemoral crease beneath the adductor longus tendon. The angle of the needle is approximately 45 degrees to patient's midline. (Fig. 1) At each pass, connectors are attached to needle tips and mesh arms pulled through incisions.

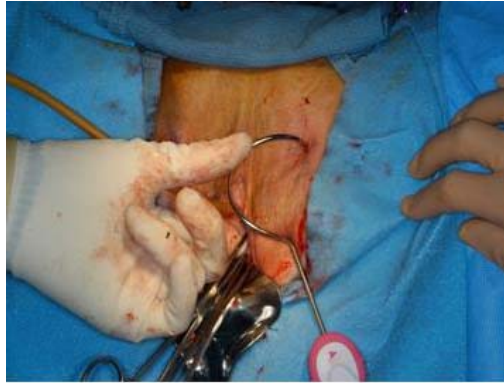


Fig. 1

The inferior incisions are 3cm inferior and 2cm lateral to the superior incisions. The inferior needle is inserted into the obturator space so that tip is pointed directly at ischial spine (Fig. 2a, 2b). Once in the space, the needle can be palpated on the other side of the levators and the needle tip is then

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Fig. 2a

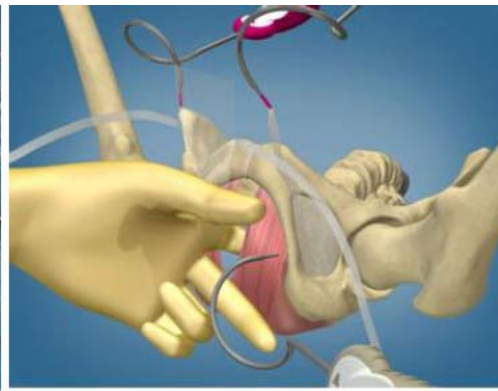


Fig. 2b

driven towards the spine. The desired exit point is along white line within 12 cm of the spine (fig 3).

The tail of the mesh is then excised and adjusted to the patient's vaginal wall length. It may be attached to the vaginal cuff or the pericervical ring (if uterus in place) with vicryl sutures. The arms are then adjusted in a tension free manner, which pulls the anterior wall up into its normal anatomic position (Fig. 4a, 4b). The incision is then closed and prior to removing outer sheaths, the vagina is checked to ensure there is no tension on the lateral arms. The outer plastic sheaths are then removed and the mesh arms then cut at the skin incisions. Anti-incontinence procedures are then performed through a separated sub-urethral incision as required (if a Monarc procedure is to be performed, the same superior incisions may be used, leave plastic sheaths on to facilitate needle passage.)

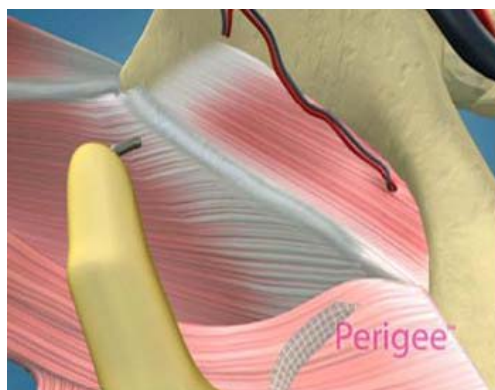


Fig. 3

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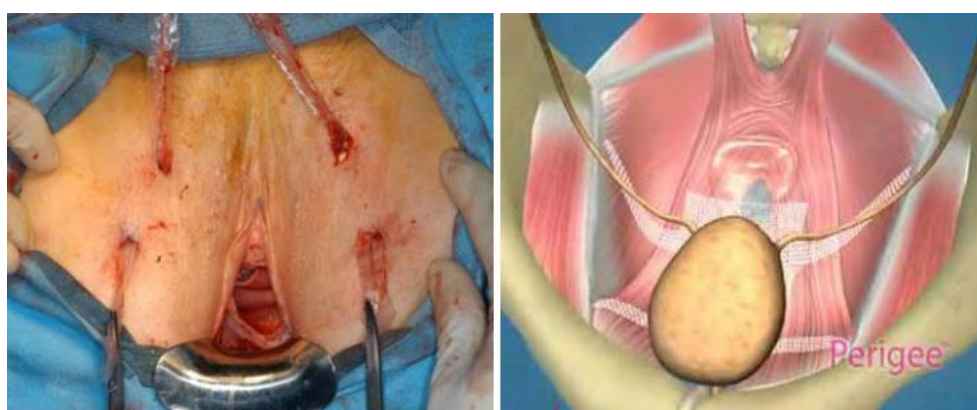


Fig. 4a

Fig. 4b

## Results

37 women underwent cystocele repair with mesh graft, with a mean follow up of 6.4 months (range 1-18). Mean age was 72.6 (54-83). Mean pre-op POP-Q Ba value = +2.4 (+/- 2.8). Associated procedures included posterior repair (20), Apogee vault procedure (4) and sling procedure (10). Average blood loss was 82cc (25-350). There were no intra-op or immediate post-op complications. Cystoscopy was completed in all patients and there were no bladder injuries. Two patients (5%) had mild levator pain post-op that resolved with short term muscle relaxant therapy.

Mean post-op Aa value = -2.8 (+/- 0.3) and Ba value = -2.7 (+/- 0.4). BW zero degree cystocele was restored in 85% of subjects, and the remaining 15% were grade 1 or less and asymptomatic. Subjectively no patient has had any recurrent symptoms of prolapse. Post-op stress incontinence occurred in 3 patients that tested negative for SUI pre-op (two required subsequent sling, the other very mild and doesn't want treated) and in one patient that had sling placed at time of Perigee for SUI.

Exposure of the mesh without granulation tissue occurred in 2 (5%) one responded and healed with estrogen cream alone and the other excised. No revisions for urinary obstruction have been required.

## Conclusions

Anterior vaginal wall prolapse (cystocele) is adequately and safely treated with placement of an anterior wall mesh graft via a double transobturator route (Perigee system). Midline, paravaginal or transverse defects

are treated with one minimally invasive, safe procedure that achieves excellent, strong attachment points for an anterior wall graft. Early results are very promising and patient satisfaction high. Long term follow-up is ongoing.

*Buenos Aires, Argentina, March 29 – April 1, 2006*

## **References**

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